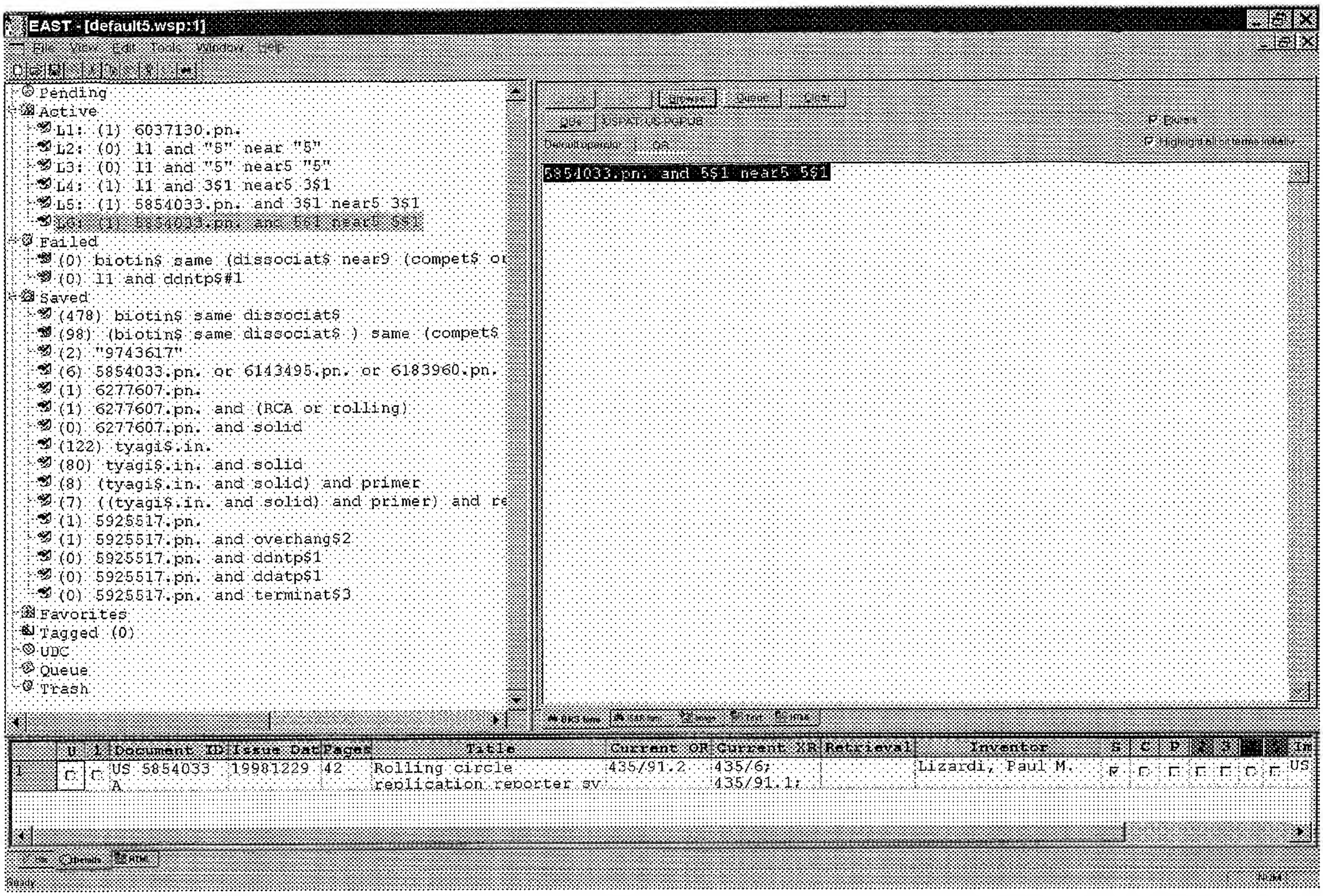
EAST - [default5.wsp:1]
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Pending
Active
L1: (1) 6037130.pn.
L2: (0) l1 and "5" near "5"
L3: (0) l1 and "5" near5 "5"
L4: (1) l1 and 3$1 near5 3$1
L5: (1) 5854033.pn. and 3$1 near5 3$1
L6: (1) 5854033.pn. and 5$1 near5 5$1
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(0) l1 and ddntp$#1
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(2) "9743617"
(6) 5854033.pn. or 6143495.pn. or 6183960.pn.
(1) 6277607.pn.
(1) 6277607.pn. and (RCA or rolling)
(0) 6277607.pn. and solid
(122) tyagi$.in.
(80) tyagi$.in. and solid
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(7) ((tyagi$.in. and solid) and primer) and re
(1) 5925517.pn.
(1) 5925517.pn. and overhang$2
(0) 5925517.pn. and ddntp$1
(0) 5925517.pn. and ddatp$1
(0) 5925517.pn. and terminat$3
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Document ID
Issue Dat
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Title
Current OR
Current XR
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Inventor
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1
US 5854033 A
19981229
42
Rolling circle replication reporter sv
435/91.2
435/6; 435/91.1;
Lizardi, Paul M.
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Details
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* * * * * * * * * * *   Welcome to STN International   * * * * * * * * * * *

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 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  Feb 24   PCTGEN now available on STN
 NEWS  4  Feb 24   TEMA now available on STN
 NEWS  5  Feb 26   NTIS now allows simultaneous left and right truncation
 NEWS  6  Feb 26   PCTFULL now contains images
 NEWS  7  Mar 04   SDI PACKAGE for monthly delivery of multifile SDI results
 NEWS  8  Mar 24   PATDPAFULL now available on STN
 NEWS  9  Mar 24   Additional information for trade-named substances without
                   structures available in REGISTRY
 NEWS 10  Apr 11   Display formats in DGENE enhanced
 NEWS 11  Apr 14   MEDLINE Reload
 NEWS 12  Apr 17   Polymer searching in REGISTRY enhanced
 NEWS 13  Jun 13   Indexing from 1947 to 1956 added to records in CA/CAPLUS
 NEWS 14  Apr 21   New current-awareness alert (SDI) frequency in
                   WPIDS/WPINDEX/WPIX
 NEWS 15  Apr 28   RDISCLOSURE now available on STN
 NEWS 16  May 05   Pharmacokinetic information and systematic chemical names
                   added to PHAR
 NEWS 17  May 15   MEDLINE file segment of TOXCENTER reloaded
 NEWS 18  May 15   Supporter information for ENCOMPPAT and ENCOMPLIT updated
 NEWS 19  May 19   Simultaneous left and right truncation added to WSCA
 NEWS 20  May 19   RAPRA enhanced with new search field, simultaneous left and
                   right truncation
 NEWS 21  Jun 06   Simultaneous left and right truncation added to CBNB
 NEWS 22  Jun 06   PASCAL enhanced with additional data
 NEWS 23  Jun 20   2003 edition of the FSTA Thesaurus is now available
 NEWS 24  Jun 25   HSDB has been reloaded
 NEWS 25  Jul 16   Data from 1960-1976 added to RDISCLOSURE
 NEWS 26  Jul 21   Identification of STN records implemented
 NEWS 27  Jul 21   Polymer class term count added to REGISTRY
 NEWS 28  Jul 22   INPADOC: Basic index (/BI) enhanced; Simultaneous Left and
                   Right Truncation available
 NEWS 29  AUG 05   New pricing for EUROPATFULL and PCTFULL effective
                   August 1, 2003

 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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=> file medline biosis caplus

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FULL ESTIMATED COST	0.21	0.21

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=> s livak and probe#
L1 0 LIVAK AND PROBE#

=> s livak?/au and probe#
L2 63 LIVAK?/AU AND PROBE#

=> d 1-10 ti

L2 ANSWER 1 OF 63 MEDLINE on STN
TI SNP genotyping by the 5'-nuclease reaction.

L2 ANSWER 2 OF 63 MEDLINE on STN
TI Factors affecting the performance of 5' nuclease PCR assays for Listeria monocytogenes detection.

L2 ANSWER 3 OF 63 MEDLINE on STN
TI Fluorescence polarization in homogeneous nucleic acid analysis II: 5'-nuclease assay.

L2 ANSWER 4 OF 63 MEDLINE on STN
TI Seven-color, homogeneous detection of six PCR products.

L2 ANSWER 5 OF 63 MEDLINE on STN
TI Allelic discrimination using fluorogenic **probes** and the 5' nuclease assay.

L2 ANSWER 6 OF 63 MEDLINE on STN
TI Detection and quantitation of human papillomavirus by using the fluorescent 5' exonuclease assay.

L2 ANSWER 7 OF 63 MEDLINE on STN
TI A homogeneous, ligase-mediated DNA diagnostic test.

L2 ANSWER 8 OF 63 MEDLINE on STN
TI Structural analogues of TaqMan **probes** for real-time quantitative PCR.

L2 ANSWER 9 OF 63 MEDLINE on STN
TI Efficient synthesis of double dye-labeled oligodeoxyribonucleotide **probes** and their application in a real time PCR assay.

L2 ANSWER 10 OF 63 MEDLINE on STN
TI A PCR-based assay for the detection of Escherichia coli Shiga-like toxin genes in ground beef.

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=> s tyagi?/au
L3          4255 TYAGI?/AU

=> s l3 and probe#
L4           154 L3 AND PROBE#

=> d 1-10 ti

L4    ANSWER 1 OF 154      MEDLINE on STN
TI    FISH analysis of meiosis in Arabidopsis allopolyploids.

L4    ANSWER 2 OF 154      MEDLINE on STN
TI    Genotyping SNPs with molecular beacons.

L4    ANSWER 3 OF 154      MEDLINE on STN
TI    Efficiencies of fluorescence resonance energy transfer and
      contact-mediated quenching in oligonucleotide probes.

L4    ANSWER 4 OF 154      MEDLINE on STN
TI    Detection of rifampin resistance in Mycobacterium tuberculosis in a single
      tube with molecular beacons.

L4    ANSWER 5 OF 154      MEDLINE on STN
TI    Sulfate and chloride transport in Caco-2 cells: differential regulation by
      thyroxine and the possible role of DRA gene.

L4    ANSWER 6 OF 154      MEDLINE on STN
TI    Wavelength-shifting molecular beacons.

L4    ANSWER 7 OF 154      MEDLINE on STN
TI    Rapid identification of Candida dubliniensis using a species-specific
      molecular beacon.

L4    ANSWER 8 OF 154      MEDLINE on STN
TI    The enhanced green fluorescent protein as a tool for the analysis of
      protein dynamics and localization: local fluorescence study at the
      single-molecule level.

L4    ANSWER 9 OF 154      MEDLINE on STN
TI    Nucleotide sequence of psbQ gene for 16-kDa protein of oxygen-evolving
      complex from Arabidopsis thaliana and regulation of its expression.

L4    ANSWER 10 OF 154      MEDLINE on STN
TI    Thermodynamic basis of the enhanced specificity of structured DNA probes.

=> s beacon and RCA
L5             4 BEACON AND RCA

=> d 1-4 bib ab

L5    ANSWER 1 OF 4      MEDLINE on STN
Full Text
AN    2002387767      MEDLINE
DN    22131782    PubMed ID: 12136114
TI    Real-time monitoring of rolling-circle amplification using a modified
      molecular beacon design.
AU    Nilsson Mats; Gullberg Mats; Dahl Fredrik; Szuhai Karoly; Raap Anton K
CS    Department of Molecular Cell Biology, Leiden University Medical Center,
      Wassenaarseweg 72, 2333 AL Leiden, The Netherlands..
      mats.nilsson@genpat.uu.se
SO    NUCLEIC ACIDS RESEARCH, (2002 Jul 15) 30 (14) e66.
```

Journal code: 0411011. ISSN: 1362-4962.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020724
Last Updated on STN: 20020809
Entered Medline: 20020808
AB We describe a method to monitor rolling-circle replication of circular oligonucleotides in dual-color and in real-time using molecular beacons. The method can be used to study the kinetics of the polymerization reaction and to amplify and quantify circularized oligonucleotide probes in a rolling-circle amplification (**RCA**) reaction. Modified molecular beacons were made of 2'-O-Me-RNA to prevent 3' exonucleolytic degradation by the polymerase used. Moreover, the complement of one of the stem sequences of the molecular **beacon** was included in the **RCA** products to avoid fluorescence quenching due to inter-molecular hybridization of neighboring molecular beacons hybridizing to the concatemeric polymerization product. The method allows highly accurate quantification of circularized DNA over a broad concentration range by relating the signal from the test DNA circle to an internal reference DNA circle reporting in a distinct fluorescence color.

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
AN 2003:98110 CAPLUS
DN 138:148657
TI Methods for nucleic acid amplification using rolling circle amplification of probes
IN Nilsson, Mats; Gullberg, Mats; Landegren, Ulf
PA Swed.
SO Brit. UK Pat. Appl., 38 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 2378245	A1	20030205	GB 2001-18959	20010803
WO 2003012119	A2	20030213	WO 2002-SE1378	20020712

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI GB 2001-18959 A 20010803
AB A method for amplifying a nucleic acid product comprising providing a first generation amplification product which comprises a concatemer of sequence to be amplified, monomerizing the amplification product, and further amplifying said product to generate a second generation amplification product. In a preferred embodiment, the monomers are ligated to form circles prior to further amplification. Preferably, the first generation amplification product is a linear rolling circle amplification product. Methods for nucleic acid amplification employing probes to indicate the extent of amplification and methods for removing

non-circularized probes during amplification are provided.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
AN 2002:578021 CAPLUS
DN 137:305342
TI Real-time monitoring of rolling-circle amplification using a modified molecular **beacon** design
AU Nilsson, Mats; Gullberg, Mats; Dahl, Fredrik; Szuhai, Karoly; Raap, Anton K.
CS Department of Molecular Cell Biology, Leiden University Medical Center, Leiden, 2333 AL, Neth.
SO Nucleic Acids Research (2002), 30(14), e66/1-e66/7
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB We describe a method to monitor rolling-circle replication of circular oligonucleotides in dual-color and in real-time using mol. beacons. The method can be used to study the kinetics of the polymn. reaction and to amplify and quantify circularized oligonucleotide probes in a rolling-circle amplification (**RCA**) reaction. Modified mol. beacons were made of 2'-O-Me-RNA to prevent 3' exonucleolytic degrdn. by the polymerase used. Moreover, the complement of one of the stem sequences of the mol. **beacon** was included in the **RCA** products to avoid fluorescence quenching due to inter-mol. hybridization of neighboring mol. beacons hybridizing to the concatemeric polymn. product. The method allows highly accurate quantification of circularized DNA over a broad concn. range by relating the signal from the test DNA circle to an internal ref. DNA circle reporting in a distinct fluorescence color.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
AN 2001:731081 CAPLUS
DN 135:283929
TI Fluorescently labeled oligonucleotide hybridization probes for rapid detection of nucleotide sequence polymorphisms
IN French, David John; McDowell, David Gordon; Brown, Tom
PA LGC (Teddington) Limited, UK
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001073118	A2	20011004	WO 2001-GB1430	20010328
WO 2001073118	A3	20020912		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1278889	A2	20030129	EP 2001-915549	20010328

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI GB 2000-7622 A 20000329
GB 2000-26749 A 20001102
WO 2001-GB1430 W 20010328

AB A method for detecting specific DNA sequences and discriminating single nucleotide polymorphisms (SNPs) using fluorescently labeled oligonucleotide probes is disclosed. In one aspect the invention provides a hybridization **beacon** (HyBeacon) which is an oligonucleotide possessing substantially no secondary structure and formed of nucleotide residues of which one is labeled with a reporter and another is optionally labeled with a quencher, with preferably between 1-15 nucleotide residues between the reporter-labeled nucleotide residue and the quencher-labeled nucleotide residue. Hybridization beacons possessing both fluorophore and quencher moieties are termed F-Q HyBeacons, whereas, probes that possess a reporter component, such as a fluorophore, but lack a quencher moiety are termed F HyBeacons. The hybridization **beacon** of the invention is a linear single-stranded oligonucleotide possessing substantially no secondary structure. The fluorescence emission of oligonucleotide probes varies significantly when in single-stranded and double-stranded states despite the absence of quencher moieties, allowing reliable detection of complementary DNA targets. The melting temp. of probe/target duplexes permits discrimination of targets that differ by as little as a single nucleotide residue, such that polymorphic targets may be discriminated by fluorescence quantitation and Tm. The hybridization probes of this invention have been demonstrated to accurately identify homozygous and heterozygous samples using a single fluorescent oligonucleotide and direct investigation of saliva with hybridization probes permits ultra-rapid genotypic anal. within 35-40 min. Target detection and SNP discrimination assays have been achieved in homogeneous, heterogeneous, 'real-time' and solid-phase formats.

=> s baner?/au and nilsson?/au and rolling/ti
L6 3 BANER?/AU AND NILSSON?/AU AND ROLLING/TI

=> d 1-3 ti

L6 ANSWER 1 OF 3 MEDLINE on STN
TI Signal amplification of padlock probes by **rolling** circle replication.

L6 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Signal amplification of padlock probes by **rolling** circle replication.

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
TI Signal amplification of padlock probes by **rolling** circle replication

=> d 1 bib ab

L6 ANSWER 1 OF 3 MEDLINE on STN
Full Text
AN 1999030509 MEDLINE
DN 99030509 PubMed ID: 9801302
TI Signal amplification of padlock probes by **rolling** circle replication.
AU **Baner J**; **Nilsson M**; Mendel-Hartvig M; Landegren U
CS The Beijer Laboratory, Department of Genetics and Pathology, Uppsala University, Box 589, Se-751 23 Uppsala, Sweden.
SO NUCLEIC ACIDS RESEARCH, (1998 Nov 15) 26 (22) 5073-8.
Journal code: 0411011. ISSN: 0305-1048.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 199901
ED Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19990106
AB Circularizing oligonucleotide probes (padlock probes) have the potential to detect sets of gene sequences with high specificity and excellent selectivity for sequence variants, but sensitivity of detection has been limiting. By using a rolling circle replication (RCR) mechanism, circularized but not unreacted probes can yield a powerful signal amplification. We demonstrate here that in order for the reaction to proceed efficiently, the probes must be released from the topological link that forms with target molecules upon hybridization and ligation. If the target strand has a nearby free 3' end, then the probe-target hybrids can be displaced by the polymerase used for replication. The displaced probe can then slip off the targetstrand and a rolling circle amplification is initiated. Alternatively, the target sequence itself can prime an RCR after its non-base paired 3' end has been removed by exonucleolytic activity. We found the Phi29 DNA polymerase to be superior to the Klenow fragment in displacing the target DNA strand, and it maintained the polymerization reaction for at least 12 h, yielding an extension product that represents several thousand-fold the length of the padlock probe.

=> s beacon and padlock
L7 1 BEACON AND PADLOCK

=> d bib ab

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
Full Text
AN 2002:578021 CAPLUS
DN 137:305342
TI Real-time monitoring of rolling-circle amplification using a modified molecular **beacon** design
AU Nilsson, Mats; Gullberg, Mats; Dahl, Fredrik; Szuhai, Karoly; Raap, Anton K.
CS Department of Molecular Cell Biology, Leiden University Medical Center, Leiden, 2333 AL, Neth.
SO Nucleic Acids Research (2002), 30(14), e66/1-e66/7
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB We describe a method to monitor rolling-circle replication of circular oligonucleotides in dual-color and in real-time using mol. beacons. The method can be used to study the kinetics of the polymn. reaction and to amplify and quantify circularized oligonucleotide probes in a rolling-circle amplification (RCA) reaction. Modified mol. beacons were made of 2'-O-Me-RNA to prevent 3' exonucleolytic degrdn. by the polymerase used. Moreover, the complement of one of the stem sequences of the mol. **beacon** was included in the RCA products to avoid fluorescence quenching due to inter-mol. hybridization of neighboring mol. beacons hybridizing to the concatemeric polymn. product. The method allows highly accurate quantification of circularized DNA over a broad concn. range by relating the signal from the test DNA circle to an internal ref. DNA circle reporting in a distinct fluorescence color.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> file uspatfull
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FULL ESTIMATED COST                                       35.20       35.41

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                       -2.60       -2.60

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CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE LAST UPDATED: 7 Aug 2003 (20030807/ED)
HIGHEST GRANTED PATENT NUMBER: US6604243
HIGHEST APPLICATION PUBLICATION NUMBER: US2003150040
CA INDEXING IS CURRENT THROUGH 7 Aug 2003 (20030807/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 7 Aug 2003 (20030807/PD)
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USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2003

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>>>  publications, starting in 2001, for the inventions covered in      <<<
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>>>  published document but also a list of any subsequent               <<<
>>>  publications.  The publication number, patent kind code, and       <<<
>>>  publication date for all the US publications for an invention      <<<
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>>>  /PK, etc.                                                          <<<

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>>>  classifications, or claims, that may potentially change from       <<<
>>>  the earliest to the latest publication.                            <<<

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substance identification.

=> s beacon (p) padlock
          5770 BEACON
          4496 PADLOCK
L8           2 BEACON (P) PADLOCK

=> d 1-2 kwic

L8   ANSWER 1 OF 2  USPATFULL on STN
DETD    . . . during synthesis using so called molecular beacons. (S Tyagi
        and F R Kramer, 1996, Nature Biotechnology, 14, 303-308). A molecular
        beacon is a usually hairpin shaped oligonucleotide carrying a
        fluorescing label at one end, and at the other end a compound that
        modulates or inhibits the fluorescence. Unfolding the normally
        hairpin-shaped molecular beacon modulates or enhances the fluorescence
        signal in an easily observed way. A molecular beacon designed to have
        a sequence corresponding to that of a padlock probe, can be used to
        monitor rolling circle replication of the padlock probe.
DETD    This system is illustrated in FIG. 5 of the accompanying drawings. A
```

padlock probe 52 has been hybridised to a target sequence of a target nucleic acid 54 and has been circularised. The. . . cut at 56 and the resulting 3'-end 58 has been chain extended by a rolling circle replication reaction involving the **padlock** probe 52. A molecular **beacon** 60 has a terminal fluorescent group 62 and a terminal quenching group 64, and an intermediate sequence corresponding to that of the **padlock** probe 52. As rolling circle replication takes place, successive molecules of the molecular **beacon** become hybridised to the extending chain at 66 in a conformation which permits enhanced fluorescence of the fluorescent group.

L8 ANSWER 2 OF 2 USPATFULL on STN
DETD . . . not be a memory aid to PINS, but rather it will only play the roles of theft deterrent, financial access **padlock** and emergency call **beacon**. For such applications, such as at home banking via the Internet, security cards of the invention that mimic "cash value". . .

=> d 1 bib ab

L8 ANSWER 1 OF 2 USPATFULL on STN
Full Text
AN 2003:123227 USPATFULL
TI Rolling circle replication of padlock probes
IN Landegren, Ulf, Uppsala University, Dept. of Medical Genetics, Biomedical Center, P.O. Box 589, Uppsala, SWEDEN S-751 23
PI US 6558928 B1 20030506
WO 9949079 19990930
AI US 2001-647036 20010316 (9)
WO 1999-EP2111 19990325
PRAI EP 1998-302278 19980325
DT Utility
FS GRANTED
EXNAM Primary Examiner: Horlick, Kenneth R.
LREP Volpe and Koenig, P.C.
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 824
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Rolling circle replication of a padlock primer is inhibited when it is hybridized to a target nucleic acid that is long or circular. The invention provides methods of addressing this problem including cutting the target nucleic acid near or preferably at the site which hybridizes with the padlock probe, whereby a 3'-end of the cut target nucleic acid acts as a primer for rolling circle replication of the padlock probe. Also included is a method of assaying for a polyepitopic target by the use of two affinity probes each carrying an oligonucleotide tag and of a padlock probe for rolling circle replication in association with the two affinity probes

=> index all
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FILE 'ENCOMPPAT' ACCESS NOT AUTHORIZED

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FULL ESTIMATED COST	9.38	44.79

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-2.60

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INDEX '1MOBILITY, 2MOBILITY, ADISCTI, AEROSPACE, AGRICOLA, ALUMINIUM, ANABSTR,
      APOLLIT, AQUASCI, AQUIRE, BABS, BIBLIODATA, BIOBUSINESS, BIOCOMMERCE,
      BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, BLLDB, CABA, CANCERLIT, CAOLD,
      CAPLUS, CASREACT, CBNB, CEABA-VTB, ...' ENTERED AT 12:47:57 ON 11 AUG 2003

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Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s (beacon# or stem (3a) loop) and (RCA or rolling (w)circle (w)amplification)
          3   FILE AEROSPACE
          2   FILE BIOSIS
          4   FILE BIOTECHABS
          4   FILE BIOTECHDS
          2   FILE BIOTECHNO
          6   FILE CAPLUS
          2   FILE COMPENDEX
          1   FILE COMPUAB
 34 FILES SEARCHED...
         14   FILE DGENE
          1   FILE ELCOM
          3   FILE EMBASE
          2   FILE ESBIOBASE
          8   FILE EUROPATFULL
 59 FILES SEARCHED...
         17   FILE IFIPAT
          1   FILE INVESTEXT
          1   FILE LIFESCI
          3   FILE MEDLINE
          8   FILE NLDB
          5   FILE NTIS
 89 FILES SEARCHED...
          1   FILE PASCAL
        130   FILE PCTFULL
         95   FILE PROMT
          4   FILE SCISEARCH
112 FILES SEARCHED...
        169   FILE USPATFULL
         10   FILE USPAT2
          7   FILE WPIDS
          7   FILE WPINDEX

  27 FILES HAVE ONE OR MORE ANSWERS,  131 FILES SEARCHED IN STNINDEX

L9    QUE (BEACON# OR STEM (3A) LOOP) AND (RCA OR ROLLING (W) CIRCLE (W) AMPLIFI
          CATION)

=> d rank
F1          169   USPATFULL
F2          130   PCTFULL
F3           95   PROMT
F4           17   IFIPAT
F5           14   DGENE
F6           10   USPAT2
F7            8   EUROPATFULL
F8            8   NLDB
F9            7   WPIDS
F10           7   WPINDEX
F11           6   CAPLUS
F12           5   NTIS
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F13             4   BIOTECHABS
F14             4   BIOTECHDS
F15             4   SCISEARCH
F16             3   AEROSPACE
F17             3   EMBASE
F18             3   MEDLINE
F19             2   BIOSIS
F20             2   BIOTECHNO
F21             2   COMPENDEX
F22             2   ESBIOBASE
F23             1   COMPUAB
F24             1   ELCOM
F25             1   INVESTEXT
F26             1   LIFESCI
F27             1   PASCAL

=> file f6-f27
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                               2.75      47.54

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                 ENTRY    SESSION
CA SUBSCRIBER PRICE                               0.00      -2.60

FILE 'USPAT2' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'NLDB' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'WPINDEX' ACCESS NOT AUTHORIZED

FILE 'CAPLUS' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'BIOTECHABS' ACCESS NOT AUTHORIZED

FILE 'BIOTECHDS' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'SCISEARCH' ENTERED AT 12:51:00 ON 11 AUG 2003
COPYRIGHT 2003 THOMSON ISI

FILE 'AEROSPACE' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'EMBASE' ENTERED AT 12:51:00 ON 11 AUG 2003
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FILE 'MEDLINE' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'BIOSIS' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'BIOTECHNO' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'COMPENDEX' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'ESBIOBASE' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'COMPUAB' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'ELCOM' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'INVESTEXT' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'LIFESCI' ENTERED AT 12:51:00 ON 11 AUG 2003

FILE 'PASCAL' ENTERED AT 12:51:00 ON 11 AUG 2003

=> d his

(FILE 'HOME' ENTERED AT 12:36:21 ON 11 AUG 2003)

FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 12:36:39 ON 11 AUG 2003
L1 0 S LIVAK AND PROBE#
L2 63 S LIVAK?/AU AND PROBE#
L3 4255 S TYAGI?/AU
L4 154 S L3 AND PROBE#
L5 4 S BEACON AND RCA
L6 3 S BANER?/AU AND NILSSON?/AU AND ROLLING/TI
L7 1 S BEACON AND PADLOCK

FILE 'USPATFULL' ENTERED AT 12:44:05 ON 11 AUG 2003
L8 2 S BEACON (P) PADLOCK

INDEX '1MOBILITY, 2MOBILITY, ADISCTI, AEROSPACE, AGRICOLA, ALUMINIUM, ANABSTR, APOLLIT, AQUASCI, AQUIRE, BABS, BIBLIODATA, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, BLLDB, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEABA-VTB, ...' ENTERED AT 12:47:57 ON 11 AUG 2003
SEA (BEACON# OR STEM (3A) LOOP) AND (RCA OR ROLLING (W)CIRCLE (

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3 FILE AEROSPACE
2 FILE BIOSIS
4 FILE BIOTECHABS

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  4   FILE BIOTECHDS
  2   FILE BIOTECHNO
  6   FILE CAPLUS
  2   FILE COMPENDEX
  1   FILE COMPUAB
 14   FILE DGENE
  1   FILE ELCOM
  3   FILE EMBASE
  2   FILE ESBIOBASE
  8   FILE EUROPATFULL
 17   FILE IFIPAT
  1   FILE INVESTEXT
  1   FILE LIFESCI
  3   FILE MEDLINE
  8   FILE NLDB
  5   FILE NTIS
  1   FILE PASCAL
130   FILE PCTFULL
 95   FILE PROMT
  4   FILE SCISEARCH
169   FILE USPATFULL
 10   FILE USPAT2
  7   FILE WPIDS
  7   FILE WPINDEX
L9          QUE (BEACON# OR STEM (3A) LOOP) AND (RCA OR ROLLING (W) CIRCLE
            ---------

     FILE 'USPAT2, EUROPATFULL, NLDB, WPIDS, CAPLUS, NTIS, BIOTECHDS,
     SCISEARCH, AEROSPACE, EMBASE, MEDLINE, BIOSIS, BIOTECHNO, COMPENDEX,
     ESBIOBASE, COMPUAB, ELCOM, INVESTEXT, LIFESCI, PASCAL' ENTERED AT
     12:51:00 ON 11 AUG 2003

=> s l9
L10          74 L9

=> dup rem l10
DUPLICATE IS NOT AVAILABLE IN 'INVESTEXT'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L10
L11          50 DUP REM L10 (24 DUPLICATES REMOVED)

=> d 1-50 ti

L11  ANSWER 1 OF 50  WPIDS  COPYRIGHT 2003 THOMSON DERWENT on STN
     DUPLICATE 1
TI   Amplifying a nucleic acid product, useful for genotyping, forensics, or
     diagnostics, comprises generating concatamer of sequence to be amplified,
     monomerizing the product and further amplifying the monomers.

L11  ANSWER 2 OF 50  USPAT2 on STN
TI     Oligonucleotide probes for detecting nucleic acids through changes in
       flourescence resonance energy transfer

L11  ANSWER 3 OF 50  USPAT2 on STN
TI     Methods, kits and compositions pertaining to PNA molecular beacons

L11  ANSWER 4 OF 50  USPAT2 on STN
TI     Open circle probes with intramolecular stem structures

L11  ANSWER 5 OF 50  EUROPATFULL  COPYRIGHT  2003 WILA on STN
TIEN   NOVEL NUCLEIC ACID PROBES AND METHOD OF ASSAYING NUCLEIC ACID BY USING
       THE SAME.
```

L11 ANSWER 6 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN MULTI-FLUORESCENT HAIRPIN ENERGY TRANSFER OLIGONUCLEOTIDES.

L11 ANSWER 7 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN SYSTEM FOR ENHANCING NAVIGATION AND SURVEILLANCE IN LOW VISIBILITY CONDITIONS.

L11 ANSWER 8 OF 50 CAPLUS COPYRIGHT 2003 ACS on STN
TI Methods for detection of a target nucleic acid by capture using multi-subunit probes

L11 ANSWER 9 OF 50 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
DUPLICATE 2
TI Recent developments in signal amplification methods for in situ hybridization

L11 ANSWER 10 OF 50 USPAT2 on STN DUPLICATE 3
TI Methods for selectively isolating DNA using **rolling circle amplification**

L11 ANSWER 11 OF 50 USPAT2 on STN
TI Phthalamide lanthanide complexes for use as luminescent markers

L11 ANSWER 12 OF 50 USPAT2 on STN
TI Compositions and methods enabling a totally internally controlled amplification reaction

L11 ANSWER 13 OF 50 USPAT2 on STN
TI Methods for detection of a target nucleic acid using a probe comprising secondary structure

L11 ANSWER 14 OF 50 USPAT2 on STN
TI MULTIMEDIA COMPUTER AND TELEVISION APPARATUS

L11 ANSWER 15 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN Circular-template chain reaction.

L11 ANSWER 16 OF 50 CAPLUS COPYRIGHT 2003 ACS on STN
TI Open circle probes with intramolecular stem structures for elimination of unwanted side products in **rolling-circle amplification**

L11 ANSWER 17 OF 50 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4
TI Real-time monitoring of **rolling-circle amplification** using a modified molecular **beacon** design

L11 ANSWER 18 OF 50 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
TI Real-time monitoring of rolling-circles amplification using a modified molecular **beacon** design

L11 ANSWER 19 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
DUPLICATE 5
TI A hybridization **beacon** which is a single stranded oligonucleotide labeled with a fluorophore is useful to discriminate between polymorphic variants of target oligonucleotides.

L11 ANSWER 20 OF 50 USPAT2 on STN
TI Methods for determination of single nucleic acid polymorphisms using bioelectronic microchip

L11 ANSWER 21 OF 50 USPAT2 on STN
TI Zymogenic nucleic acid detection methods, and related molecules and kits

L11 ANSWER 22 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN UNIMOLECULAR SEGMENT AMPLIFICATION AND DETECTION.

L11 ANSWER 23 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
TI Use of moderately-repeated highly-conserved nucleic acid sequences (e.g. human TSPY or U2 genes) for detecting or analyzing specific nucleic acid sequences in cells, especially useful in genetic diagnosis or forensics.

L11 ANSWER 24 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
TI Isolating DNA containing fragments nicked by Escherichia coli methyl-directed mismatch repair system involves using a modified **rolling circle amplification** procedure which employs DNA polymerase III.

L11 ANSWER 25 OF 50 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 6
TI Enabling large-scale pharmacogenetic studies by high-throughput mutation detection and genotyping technologies

L11 ANSWER 26 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN DUPLICATE 7
TI New fluorescently labeled hairpin forming oligonucleotides, useful as probes and primers for the detection of target nucleic acids, contain a fluorescent emitter and harvester and a quencher moiety.

L11 ANSWER 27 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
TI Novel primers for nucleic acid amplification, comprise a hairpin structure in which a single-stranded loop separates complementary 3' and 5' arms and the loop and the 3' arm are complementary to target nucleic acid.

L11 ANSWER 28 OF 50 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Enabling large-scale pharmacogenetic studies by high-throughput mutation detection and genotyping technologies.

L11 ANSWER 29 OF 50 COPYRIGHT 2003 Gale Group on STN

TI AUDIO NOTES

L11 ANSWER 30 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN Recombinant ricin toxin.

L11 ANSWER 31 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN Recombinant ricin toxin.

L11 ANSWER 32 OF 50 COPYRIGHT 2003 Gale Group on STN DUPLICATE 8
TI CAMBODIA: CONSTRUCTION CONTRACT AWARD FOR PLANNED 60 MW POWER STATION, DAELIM [SOUTH KOREA] - Order #: 1010897

L11 ANSWER 33 OF 50 COPYRIGHT 2003 Gale Group on STN

TI UNIVERSAL WEIGHS STRATEGY

L11 ANSWER 34 OF 50 COPYRIGHT 2003 Gale Group on STN

TI SponsorBits

L11 ANSWER 35 OF 50 COPYRIGHT 2003 Gale Group on STN

TI Experimental New Macintosh TV Intro'd In US 10/25/93

L11 ANSWER 36 OF 50 COPYRIGHT 2003 Gale Group on STN

TI The Summer Consumer Electronics Show 28-31 May 1992: Chicago, Illinois

L11 ANSWER 37 OF 50 COPYRIGHT 2003 Gale Group on STN

TI Packard Bell To Offer MPCs, TV/Video Cards 08/19/92

L11 ANSWER 38 OF 50 EUROPATFULL COPYRIGHT 2003 WILA on STN
TIEN Investigating and controlling the pointing direction of an antenna on board a spacecraft.
TIEN Investigating and controlling the pointing direction of an antenna on board a spacecraft.

L11 ANSWER 39 OF 50 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
DUPLICATE 9
TI RAIN COMPENSATION ALGORITHM FOR ACTS MOBILE TERMINAL

L11 ANSWER 40 OF 50 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
DUPLICATE 10
TI A transmitter identifier for use with wildlife biotelemetry.

L11 ANSWER 41 OF 50 AEROSPACE COPYRIGHT 2003 CSA on STN
TI A review and analysis of the **RCA** collision avoidance system, phase 1 Final Report, Jul. 1972 - Aug. 1973

L11 ANSWER 42 OF 50 AEROSPACE COPYRIGHT 2003 CSA on STN
TI Collision avoidance - The state of the art and some recent developments and analyses

L11 ANSWER 43 OF 50 COMPENDEX COPYRIGHT 2003 EEI on STN
TI OPERATIONAL LASER SYSTEMS USED ON THE MADOS PROJECT.

L11 ANSWER 44 OF 50 NTIS COPYRIGHT 2003 NTIS on STN
TI Letter Report on a Straw-Man Modification of an ATC Transponder for Discrete Address Use. Interim rept. Jul-Dec 72.

L11 ANSWER 45 OF 50 NTIS COPYRIGHT 2003 NTIS on STN
TI Airborne SHF Satellite Terminal Test. Final technical rept. Jun 71-May 73.

L11 ANSWER 46 OF 50 NTIS COPYRIGHT 2003 NTIS on STN
TI A Review and Analysis of the **RCA** Collision Avoidance System. Phase I. Final rept. Jul 72-Aug 73.

L11 ANSWER 47 OF 50 AEROSPACE COPYRIGHT 2003 CSA on STN
TI An air surveillance system for recognizing the aircraft utilizing the **RCA** satellite system.
Air surveillance using satellite range-difference measurement from noninterrogated aircraft **beacons** for ATC

L11 ANSWER 48 OF 50 NTIS COPYRIGHT 2003 NTIS on STN
TI Flight Test of Modified Dtb and Dme for ILS. Final rept.

L11 ANSWER 49 OF 50 NTIS COPYRIGHT 2003 NTIS on STN
TI Selektive Adressierungsverfahren in der Flugsicherung (FS) und die zu erwartenden Stoerungen (SSR-DABS). (Selective addressing methods in flight safety (FS) and the interference to be expected (SSR-DABS)).

L11 ANSWER 50 OF 50 INVESTEXT COPYRIGHT 2003 TFS on STN

TI Netradio Corp: Initiating Coverage

=> d 18, 19, 26, 27, 22 bib ab

L11 ANSWER 18 OF 50 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
Full Text
AN 2002:659805 SCISEARCH
GA The Genuine Article (R) Number: 579AY
TI Real-time monitoring of rolling-circles amplification using a modified molecular **beacon** design
AU Nilsson M (Reprint); Gullberg M; Dahl F; Szuhai K; Raap A K
CS Uppsala Univ, Rudbeck Lab, Dept Genet Pathol, Beijer Lab, SE-75185 Uppsala, Sweden (Reprint); Leiden State Univ, Med Ctr, Dept Mol Cell Biol, NL-2333 AL Leiden, Netherlands
CYA Sweden; Netherlands
SO NUCLEIC ACIDS RESEARCH, (15 JUL 2002) Vol. 30, No. 14, pp. U11-U17. Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND. ISSN: 0305-1048.
DT Article; Journal
LA English
REC Reference Count: 23
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB We describe a method to monitor rolling-circle replication of circular oligonucleotides in dual-color and in real-time using molecular **beacons**. The method can be used to study the kinetics of the polymerization reaction and to amplify and quantify circularized oligonucleotide probes in a **rolling-circle amplification** (**RCA**) reaction. Modified molecular **beacons** were made of 2'-O-Me-RNA to prevent 3' exonucleolytic degradation by the polymerase used. Moreover, the complement of one of the stem sequences of the molecular **beacon** was included in the **RCA** products to avoid fluorescence quenching due to inter-molecular hybridization of neighboring molecular **beacons** hybridizing to the concatemeric polymerization product. The method allows highly accurate quantification of circularized DNA over a broad concentration range by relating the signal from the test DNA circle to an internal reference DNA circle reporting in a distinct fluorescence color.

L11 ANSWER 19 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
Full Text
DUPLICATE 5
AN 2001-616532 [71] WPIDS
DNC C2001-184675
TI A hybridization **beacon** which is a single stranded oligonucleotide labeled with a fluorophore is useful to discriminate between polymorphic variants of target oligonucleotides.
DC B04 D16
IN BROWN, T; FRENCH, D J; MCDOWELL, D G
PA (LGCT-N) LGC TEDDINGTON LTD
CYC 96
PI WO 2001073118 A2 20011004 (200171)* EN 43p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001042634 A 20011008 (200208)
EP 1278889 A2 20030129 (200310) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
ADT WO 2001073118 A2 WO 2001-GB1430 20010328; AU 2001042634 A AU 2001-42634 20010328; EP 1278889 A2 EP 2001-915549 20010328, WO 2001-GB1430 20010328
FDT AU 2001042634 A Based on WO 200173118; EP 1278889 A2 Based on WO 200173118
PRAI GB 2000-26749 20001102; GB 2000-7622 20000329
AB WO 200173118 A UPAB: 20011203
NOVELTY - A hybridization **beacon** (I) which is an oligonucleotide having

substantially no secondary structure, and formed of nucleotides, one of which is labeled with a reporter, and no associated quencher, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) (I) also having one nucleotide labeled with a quencher with 1-15 nucleotides between the quencher and the reporter;

(2) investigating a polynucleotide having a known or suspected polymorphism, comprising incubating the polynucleotide with the **beacon** to form a hybrid, where the **beacon** exhibits a higher signal level when in hybrid form than in single stranded form, and observing signal level at a temperature or range of temperatures near the melting temperature of the hybrid;

USE - The **beacon** is used to detect, identify or quantify a target sequence in a sample, and to differentiate between homozygous and heterozygous polynucleotide targets (claimed).

Dwg.0/23

L11 ANSWER 26 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN

Full Text

DUPLICATE 7

AN 2000-183138 [16] WPIDS

DNC C2000-057550

TI New fluorescently labeled hairpin forming oligonucleotides, useful as probes and primers for the detection of target nucleic acids, contain a fluorescent emitter and harvester and a quencher moiety.

DC B04 D16

IN KRAMER, F R; MARRAS, S A E; TYAGI, S

PA (PUBL-N) PUBLIC HEALTH INST CITY NEW YORK INC; (PUBL-N) PUBLIC HEALTH RES INST NEW YORK

CYC 23

PI WO 2000006778 A1 20000210 (200016)* EN 58p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
US 6037130 A 20000314 (200020)
AU 9952402 A 20000221 (200029)
EP 1100971 A1 20010523 (200130) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2002521069 W 20020716 (200261) 53p

ADT WO 2000006778 A1 WO 1999-US17145 19990728; US 6037130 A US 1998-123764 19980728; AU 9952402 A AU 1999-52402 19990728; EP 1100971 A1 EP 1999-937602 19990728, WO 1999-US17145 19990728; JP 2002521069 W WO 1999-US17145 19990728, JP 2000-562560 19990728

FDT AU 9952402 A Based on WO 200006778; EP 1100971 A1 Based on WO 200006778; JP 2002521069 W Based on WO 200006778

PRAI US 1998-123764 19980728

AB WO 200006778 A UPAB: 20000330

NOVELTY - A fluorescently labeled hairpin-forming oligonucleotide (ON) containing a fluorescent emitter, a fluorescent harvester and a quencher moiety, is new. The ON having a closed conformation including a single-stranded **loop** and a **stem** duplex.

DETAILED DESCRIPTION - The fluorescently labeled hairpin-forming ON contains:

(a) a fluorescent emitter moiety with an excitation spectrum and an emission spectrum including a maximum emission wavelength (MEmW);

(b) a fluorescent harvester moiety with an excitation spectrum including a maximum excitation wavelength (MExW), and an emission spectrum that overlaps the excitation spectrum of the emitter moiety and including a MEmW, the emission of the harvester moiety at its MEmW has a first magnitude when the harvester moiety is unquenched and stimulated at its MExW; and

(c) a quencher moiety capable of quenching the fluorescence of at least one of the emitter moiety and the harvester moiety.

The quencher moiety is in a quenching relationship to at least one of the harvester and emitter moieties and when excited at the MExW of the harvester moiety, emission at the MEmW of the harvester moiety is suppressed relative to the first magnitude and emission at the MEmW of the emitter moiety has a second magnitude. The ON has an open conformation not including the stem duplex in which the quencher moiety is not in a quenching relationship with the harvester or the emitter moiety, when excited at the MEmW of the harvester moiety, emission at the MEmW of the harvester moiety is suppressed relative to the first magnitude, energy is transferred from the harvester moiety to the emitter moiety, and emission at the MEmW of the emitter moiety is detectably greater than the second magnitude.

INDEPENDENT CLAIMS are also included for the following:

(1) a reagent kit comprising ingredients for a nucleic acid amplification, a detector probe that is an ON of the novelty, and instructions for carrying out the amplification reaction;

(2) a reagent kit for an amplification reaction that includes at least one primer, comprising the ingredients for the amplification assay and instructions for carrying out the amplification assay, where the at least one primer is an ON of the novelty which includes a terminal extension capable of serving as a priming region for a DNA polymerase when the oligonucleotide is in its closed conformation;

(3) an amplification assay comprising adding to a sample that might contain a target strand, the reagents to perform an amplification reaction selected from polymerase chain reaction (PCR), strand displacement amplification (SDA), transcription mediated amplification (TMA), ligase chain reaction (LCR), nucleic acid sequence based amplification (NASBA), **rolling circle amplification**, and amplification of RNA by an RNA-directed RNA polymerase, and at least one detector probe of the novelty, and detecting fluorescence emission from the at least one probe's emitter moiety;

(4) a detection assay comprising adding to a sample which might contain a target strand at least one detector probe which an ON of the novelty, where hybridization of the loop at a target sequence causes the ON to assume its open conformation, and detecting fluorescence emission from the probes emitter moiety;

(5) an amplification assay comprising an amplification reaction that includes at least one primer comprising adding to a sample that might contain a target strand the reagents to perform the amplification reaction, the reagents including at least one ON of the novelty where one strand of the stem duplex is complementary to the target strand, and the ON can act as a primer, and detecting fluorescence of the emitter moiety; and

(6) an amplification assay comprising an amplification reaction that includes at least one primer comprising adding to a sample that might contain a target strand the reagents to perform the amplification reaction, the reagents including a primer ON of the novelty, and detecting fluorescence of the emitter moiety.

USE - The ONs can be used as probes and primers for the detection of target nucleic acids.

ADVANTAGE - The difference in wavelength between the excitation maximum of the harvester and the emission maximum of the emitter, the Stokes shift of the probes, is larger than conventional probes, reducing the background.

Dwg.0/20

L11 ANSWER 27 OF 50 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN

Full Text

AN 2001-032015 [04] WPIDS

DNN N2001-024997 DNC C2001-009839

TI Novel primers for nucleic acid amplification, comprise a hairpin structure in which a single-stranded loop separates complementary 3' and 5' arms and

the loop and the 3' arm are complementary to target nucleic acid.

DC B04 D16 S03

IN KRAMER, F R; TYAGI, S; VARTIKIAN, R

PA (PUBL-N) PUBLIC HEALTH RES INST NEW YORK; (KRAM-I) KRAMER F R; (TYAG-I) TYAGI S; (VART-I) VARTIKIAN R

CYC 23

PI WO 2000071562 A1 20001130 (200104)* EN 38p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 2000046939 A 20001212 (200115)
US 6277607 B1 20010821 (200150)
EP 1185546 A1 20020313 (200225) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6365729 B1 20020402 (200226)
JP 2003500038 W 20030107 (200314) 38p

ADT WO 2000071562 A1 WO 2000-US11979 20000503; AU 2000046939 A AU 2000-46939 20000503; US 6277607 B1 US 1999-317350 19990524; EP 1185546 A1 EP 2000-928752 20000503, WO 2000-US11979 20000503; US 6365729 B1 Cont of US 1999-317350 19990524, US 2001-903915 20010712; JP 2003500038 W JP 2000-619817 20000503, WO 2000-US11979 20000503

FDT AU 2000046939 A Based on WO 200071562; EP 1185546 A1 Based on WO 200071562; US 6365729 B1 Cont of US 6277607; JP 2003500038 W Based on WO 200071562

PRAI US 1999-317350 19990524; US 2001-903915 20010712

AB WO 200071562 A UPAB: 20010118

NOVELTY - A hairpin oligonucleotide primer (I) for extension by a DNA polymerase, comprising a stem formed by complementary 3' and 5' arm sequences and a single-stranded loop sequence separating the arm sequences, where the 3' arm sequence and the loop sequence are both complementary to a selected priming region of a target nucleic acid strand, is new.

DETAILED DESCRIPTION - A new hairpin oligonucleotide primer (I) for extension by a DNA polymerase, comprises a stem formed by complementary 3' and 5' arm sequences and a single-stranded loop sequence separating the arm sequences, where the 3' arm sequence and the loop sequence are both complementary to a selected priming region of a target nucleic acid strand. In addition, hybridization of the loop sequence of (I) to a model non-target sequence of the length of the loop and perfectly complementary to the loop sequence does not cause dissociation of the stem.

INDEPENDENT CLAIMS are also included for the following:

(1) an improved linear oligonucleotide primer (II) for extension by a DNA polymerase, having a 5' terminus and 3' terminal region, the improvement comprises adding to the 5' terminus a nucleotide sequence that is complementary to the 3' terminal region to form an hairpin structure comprising a **stem** and **loop**, where hybridization of the loop to a model oligonucleotide having the same length as the loop and being perfectly complementary does not cause the stem to dissociate; and

(2) a kit (III) of reagents for performing amplification of a target nucleic acid sequence comprising amplification buffer, dNTPs, (I) and instructions for performing the amplification.

USE - (I) and an improved linear oligonucleotide primer (II) are useful for nucleic acid amplification by a polymerase chain reaction (PCR), a strand displacement reaction (SDA), a nucleic acid sequence-based amplification (NASBA), transcription-mediated amplification (TMA), and a **rolling-circle amplification** (**RCA**). The process includes real-time detection of intended amplification products utilizing separate detector probes having interactive labels, at least one of which is a fluorophore (claimed).

ADVANTAGE - The primers are highly specific and improve the sensitivity of assays that detect target nucleic acids that contain a single nucleotide substitution within a population of more abundant wild-type nucleic acids. Formation of false amplification products is

reduced and the determination of a fraction of a nucleic acid population that is mutant and wild-type, even when the fraction is very small or large is enabled. Labeling the amplification products with a fluorescent moiety enables monitoring the reactions in real time without utilizing probes or nonspecific intercalating reagents.
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Full Text

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	61.10	108.64

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
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